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EXAMINER	
NORTON, JENNIFER L	

ART UNIT	PAPER NUMBER
2121	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/719,163	LONGSDORF ET AL.	
	Examiner	Art Unit	
	Jennifer L. Norton	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 August 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/18/08, 9/30/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The following is a **Final Office Action** in response to the Amendment received on 18 August 2008. Claims 1, 36, 37 and 52 have been amended. Claims 1-53 are pending in this application.

Drawings

2. The amendment to the Drawings was received on 18 August 2008. The correction is acceptable and the objection is withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1-8, 10-12, 15-42, 44, 45, 47-53** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,017,143 (hereinafter **Eryurek**), in view of U.S. Patent No. 7,054,765 (hereinafter **Flaemig**), and further in view of U.S. Patent No. 6,647,301 (hereinafter **Sederlund**).

(**Eryurek** as set forth above generally discloses the basic inventions.)

Regarding independent claims 1, 36, 37, and 52 Eryurek teaches,

- A transmitter for use in an industrial process, (col. 3, lines 9-12) comprising:
- a sensor module (Fig. 1, element 16) to couple to the process and measure a process variable; (col. 3, lines 9-12)
- a feature module to couple to the sensor module, (abstract, col. 1, lines 44-64 and Fig. 1) the feature module including:
- a device interface to couple to the process device (abstract) and provide an output related to operation of a component of the process device (col. 1, lines 44-45; an input which receives a process signal);
- a component monitor in the process device to monitor operation of the component based upon the output from the device interface and responsively identify a safety event of the component (col. 8, line 30-col. 9, line 14; computing circuitry provides an event output ... in response to, col. 1, lines 53-57; provide an event output, col. 1, line 44-64; rules are selected to detect events, col. 1, lines 44-64); and provide a safety event output (col. 1, lines 31-36; typically, ... pressure is monitored and an alarm is sounded or a safety shutdown is initiated if the process variable exceeds predetermined limits) indicative of a failure of the component (col. 6, lines 21-42); and
- a safety response module in the process device to respond to the safety event of the component based upon the safety event output (col. 1, lines 31-36; typically, ... pressure is monitored and an alarm is sounded or a safety shutdown is initiated if the process variable exceeds predetermined limits) in accordance with a safety

response (col. 6, lines 21-42; provide an event output and col. 1, line 44-64; rules are selected to detect events).

- Eryurek further teaches to detecting faulty device, identify device/component (Fig. 6).

Eryurek does not expressly teaches Safety Integrity Level (SIL), a component monitor in the process device to monitor operation of the component and retrofitting to the process device.

Flaemig teaches to a component monitor (Fig. 1, element 12) in the process device to monitor operation of the component and retrofitting to the process device (col. 1, lines 59-65).

Flaemig does not expressly teach Safety Integrity Level (SIL).

Sederlund teaches Safety Integrity Level (SIL) (abstract, col. 1, lines 14-17, col. 2, lines 45-50, col. 9, lines 31-61, col. 12, lines 12-60, col. 22, line 52-col. 24, line 10) for the purpose of providing a rule set (col. 12, lines 12-60).

It would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of **Eryurek** to include a component monitor in the process device to monitor operation of the component and retrofitting to the process device to increase the integrity of measurement by positively notifying false indications are caused by loss of a pressure transmission fluid, which could previously

go undetected; as well as, providing error information for failure of external conversion electronics and software (Flaemig: col. 1, lines 66-67 and col. 2, lines 1-7); and Safety Integrity Level (SIL) for the purpose of providing a rule set (Sederlund: col. 12, lines 12-60).

Regarding dependent claim 2,

Eryurek teaches, the apparatus of claim 1 wherein the device interface comprises

- a connection to a databus of the process device (col. 2, line 65-col. 3, line 33 and Fig. 1).

Further explanation, the term, "databus", has been interpreted to as "2-wire process control loop" based on the definition in specification (pg. 16, line 29, pg. 17, lines 1-12 and line 21 and Fig. 3 and Fig. 1)

Regarding dependent claims 3, 21, 28 and 38,

Eryurek teaches, an apparatus wherein

- the component monitor is to monitor data carried on the databus (monitors the process and performs computations, col. 3, lines 22-25; col. 8, line 30-col. 9, line 14).

Regarding dependent claim 4,

Eryurek teaches, the apparatus of claim 1 wherein the device interface comprises

- a sensor coupled to the process device (Fig. 1, element 16; sensor, col. 3, lines 9-12 and col. 4, lines 35-42).

Regarding dependent claims 5 and 40,

Eryurek teaches, an apparatus wherein

- the process device couples to a process control loop and sensor is to monitor current flow in the process control loop (col. 4, lines 38-42; diagnostic signal sensed by sensor and col. 2, lines 46-57; diagnostic signals include ... electrical voltage, current ...).

Regarding dependent claims 6 and 41,

Eryurek teaches, an apparatus wherein

- the component monitor compares the sensed current with a current value (col. 4, lines 38-42; diagnostic signal sensed by sensor; col. 2, lines 46-57; diagnostic signals include ... electrical voltage, current ..., col. 8, lines 42-44; determines faulty).

Regarding dependent claims 7 and 42,

Eryurek teaches, an apparatus wherein

- the safety response module controls the current in a process control loop based upon a safety failure (col. 4, lines 38-42; diagnostic signal sensed by sensor, col. 2,

lines 46-57; diagnostic signals include ... electrical voltage, current ..., col. 8, lines 42-44; determines faulty and col. 6, lines 21-42; statistical parameter mean, current means).

Regarding dependent claim 8,

Eryurek teaches, the apparatus of claim 1, the device interface (abstract and col. 1, lines 44-45; an input which receives a process signal).

Eryurek does not expressly teach a watch dog circuit.

Sederlund teaches a watch dog circuit (col. 7, lines 19-20 and Fig. 35).

It would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of **Eryurek** to include a watch dog circuit for the purpose of providing a rule set (col. 12, lines 12-60).

Regarding dependent claim 10,

Eryurek teaches, the apparatus of claim 1 wherein

- the device interface couples to a memory (col. 1, lines 44-46; input, memory).

Regarding dependent claims 11 and 44,

Eryurek teaches, an apparatus wherein

- the component monitor is to detect errors in the data stored in the memory (col. 8, line 42–col. 9, line 10).

Regarding dependent claims 12 and 45,

Eryurek teaches, an apparatus wherein

- the safety response module provides an alarm output (col. 1, lines 34-35; alarm is sounded).

Regarding dependent claims 15 and 47,

Eryurek teaches, an apparatus wherein

- the safety response module attempts to compensate for the safety failure (col. 6, lines 21-42; defines the acceptable variations,).

Regarding dependent claims 16 and 48,

Eryurek teaches, an apparatus wherein

- the safety response module corrects for errors in data in the device (col. 6, lines 56-59; adjusted by adjusting the sensitivity parameter).

Regarding dependent claim 17,

Eryurek teaches, the apparatus of claim 16 wherein

- the safety response module interpolates between data points in order to correct a data error (col. 3, lines 15-33; adjusting value by changing the flow in pipe).

Regarding dependent claim 18,

Eryurek teaches, the apparatus of claim 16 wherein

- the safety response module holds a previous data point (col. 5, lines 51-53).

Regarding dependent claims 19 and 49,

Eryurek teaches, an apparatus wherein

- the sensor comprises a voltage sensor (col. 2, lines 42-64; electrical voltage ... or any parameter ... maybe detected).

Regarding dependent claims 20 and 50,

Eryurek teaches, an apparatus wherein

- a current sensor (col. 2, lines 42-64; current ... or any parameter ... maybe detected).

Regarding dependent claim 22,

Eryurek teaches, the apparatus of claim 1 wherein the component monitor comprises

- software implemented in a microprocessor of the device (col. 10, lines 2-5).

Regarding dependent claims 23 and 51,

Eryurek teaches, an apparatus wherein the safety event comprises

- a possibility of a future component failure (col. 1, lines 34-36; exceed predefined limits).

Regarding dependent claim 24,

Eryurek teaches, an apparatus wherein the safety event comprises

- a detection of a component failure (col. 9, lines 43-45; faulty device).

Regarding dependent claim 25,

Eryurek teaches a process variable transmitter including the apparatus of claim 1 (Fig. 1, element 12).

Regarding dependent claim 26,

Eryurek teaches the transmitter of claim 25 wherein

- the safety response module is implemented in a feature module which couples to a sensor module (col. 10, lines 2-5 and Fig. 2).

Regarding dependent claim 27 and 53,

Eryurek teaches the transmitter of claim 25 wherein

- the safety response module is implemented in a feature module which couples to a plurality of sensor modules (col. 10, lines 2-5, col. 8, lines 65-66 and Fig. 2).

Regarding dependent claim 29,

Eryurek teaches the apparatus of claim 25 including

- a display and wherein the component monitors data sent to the display (col. 4, lines 44-58; a display).

Regarding dependent claim 30,

Eryurek teaches a process controller including the apparatus of claim 1 (Fig. 1).

Regarding dependent claim 31,

Eryurek teaches a device in a Safety Instrumented System (SIS) in accordance with claim 1 (col. 1, lines 34 – 41).

Regarding dependent claim 32,

Eryurek teaches the apparatus of claim 1 wherein

- the component monitor is to monitor a plurality of process devices (col. 3, lines 34-36 and Fig. 6, element 208).

Regarding dependent claim 33,

Eryurek teaches the apparatus of claim 1 wherein

- the component monitor and safety response module are implemented in software (col. 10, lines 2-5).

Regarding dependent claim 34,

Eryurek does not expressly teach an apparatus wherein

- the software is to upgrade an existing process device.

Flaemig teaches to the software (Fig. 1, element 6; i.e. software of the processor) is to upgrade an existing process device (col. 1, lines 59-65 and col. 2, lines 44-50; i.e. the processor's capability to generate signals associated with the add-on device).

It would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of **Eryurek** to include the software is to upgrade an existing process device to increase the integrity of measurement by positively notifying false indications are caused by loss of a pressure transmission fluid, which could previously go undetected; as well as, providing error information for failure of external conversion electronics and software (Flaemig: col. 1, lines 66-67 and col. 2, lines 1-7).

Regarding dependent claim 35,

Eryurek does not expressly teach

- a feature module to upgrade an existing process device.

Flaemig teaches a feature module (Fig. 1, element 6; i.e. software of the processor) to upgrade an existing process device (col. 1, lines 59-65 and col. 2, lines 44-50; i.e. the processor's capability to generate signals associated with the add-on device).

It would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of **Eryurek** to include a feature module to upgrade an existing process device to increase the integrity of measurement by positively notifying false indications are caused by loss of a pressure transmission fluid, which could previously go undetected; as well as, providing error information for failure of external conversion electronics and software (Flaemig: col. 1, lines 66-67 and col. 2, lines 1-7).

Regarding dependent claim 39,

Eryurek teaches, the method of claim 37 wherein

- the sensing uses a sensor coupled to the process device (col. 3, lines 9-12).

3. **Claims 9 and 43 are rejected** under 35 U.S.C. 103(a) as being unpatentable over **Eryurek** in view of **Flaemig** and**,** and further in view of **Sederlund** and U.S. Patent No. 6,476,522 (hereinafter **Hays**).

Regarding dependent claims 9 and 43,

Eryurek teaches, an apparatus with a device interface (abstract and col. 1, lines 44-45).

Eryurek does not expressly teach sense power drawn by circuitry of the process device.

Flaemig does not expressly teach sense power drawn by circuitry of the process device.

Hays teaches sensing power drawn by circuitry of the process device (abstract and col. 1, lines 7-8; electronic components for controlling power drawn by a measurement device) for the purpose of controlling power drawn (col. 1, lines 7-8).

It would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of **Eryurek** to include sensing power drawn by circuitry of the process device to advantageously maximize power available for any type of sensor in the measurement device, as well as, provide a measurement device that supports a longer length of the power link (col. 2, lines 38-48).

4. **Claims 13, 14 and 46 are rejected** under 35 U.S.C. 103(a) as being unpatentable over **Eryurek** in view of **Flaemig,** and further in view of **Sederlund** and U.S. Patent No. 4,356,900 (hereinafter **Sommer**).

Regarding dependent claims 13, 14 and 46,

Eryurek teaches, an apparatus with a device interface (abstract and col. 1, lines 44-45).

Eryurek does not expressly teach the safety response module disconnects the process device from a process control loop.

Flaemig does not expressly teach the safety response module disconnects the process device from a process control loop.

Sommer teaches the safety response module disconnects the process device from a process control loop (abstract; deactuate the clutch unit so as to disconnect the motor from the driving apparatus in response to abnormal operating conditions) for the purpose of safety (abstract).

It would have been obvious to a person of ordinary skill in the art at the time of applicant's invention to modify the teaching of Eryurek to include the safety response module disconnects the process device from a process control loop to achieve a soft start which enables the conveyor belt to tension in a generally even manner whereby any backlash or rebounding is minimized (col. 1, lines 35-39); as well as, provide an improved cam type control valve which is extremely resistant to operation degradation as a result of contaminants in the actuating fluid and which operates reliably to apply actuating fluid to the clutch unit in accordance with a predetermined profile so as to

smoothly bring the driven apparatus up to full operating speed within a minimum amount of time and with a minimum amount of clutch slippage (col. 1, lines 62-67 and col. 2, lines 1-2).

Response to Arguments

5. Applicant's arguments see Remarks pgs. 12-13, filed 18 August 2008 with respect to the rejection of claims 1-53 under 35 U.S.C 103(a) have been fully considered but they are not persuasive.

6. In regards to Applicant's argument that Eryurek does not teach, "a component monitor" (Remarks pg. 12, paragraph 2) and that Flaemig does not teach, "a safety event" (Remarks pg. 12, paragraph 2), the Examiner recognizes the Applicant has not accounted for the combination of Eryurek, Flaemig and Sederlund under 35 U.S.C 103(a) for this limitation as set forth in the Non-Final Office Action, mailed on 24 January 2008.

In summary the combination of the component monitor (i.e. inference engine incorporated in the process device) of Eryurek in view of the retrofit monitoring device (i.e. add-on monitoring device (Fig. 1, element 12) of Flaemig in further view of the safety Integrity Level (SIL) of Sederlund teaches "a component monitor" and "a safety event" as claimed in the instant application.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer L. Norton whose telephone number is (571)272-3694. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on 571-272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Albert DeCady/
Supervisory Patent Examiner, Art Unit 2121